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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,406	12/21/2001	Shunpei Yamazaki	SEL 297	2501

7590 08/23/2006

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EXAMINER

LAO, LUN YI

ART UNIT PAPER NUMBER

2629

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/026,406

Applicant(s)

YAMAZAKI ET AL.

Examiner

Lao Y Lun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-71 is/are pending in the application.
- 4a) Of the above claim(s) 1,5,6,19,21-24,27-30,63 and 64 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,4,7-18 and 33-62 is/are allowed.
- 6) ☒ Claim(s) 2,20,25,26,31,32,65-68 and 70 is/are rejected.
- 7) ☒ Claim(s) 69 and 71 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/25/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 20, 25, 26, 31, 32 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cok(6,636,191) in view of Bell(4,996,523) and Greeneich et al(4,110,662).

As to claims 2, 20, 25, 26, 31, 32 and 65, Cok teaches a light emitting device comprising a pixel having a light emitting element(LED 22); a first memory(14); a second memory(92) and means for determining a period in which the light emitting element emits a light in accordance with image information of the stored digital video signals(see figures 7-9; column 3, lines 33-49 and column 4, lines 5-53).

Cok fails to disclose n memories and means for determining a length of a period of a light emitting element.

Bell teaches a light emitting device comprising a pixel having n memories(22n); means for determining periods in which the light emitting element emits a light corresponding to the video signals and one frame period including a writing period; an light emitting period(ON period) and non-light emitting period(Off period)(see figures 1-

2; column 1, lines 58-68; column 2, lines 1-9 and lines 51-68; column 3, lines 6-16 and lines 41-68). It would have been obvious to have modified Cok with the teaching of Bell, so as to provide multi-gradation display to a user.

Greeneich et al teach means for determining a length of a period of light emitting element(EL)(see figures 1, 3-5; column 4, lines 13-57 and claim 4). It would have been obvious to have modified Cok as modified with the teaching of Greeneich et al, since it is relatively easy and cheap by varying the pulse width to control the gray scale level of a display element.

As to claims 20 and 25, Cok teaches an LCD display(see column 1, lines 10-23).

As to claims 26 and 32, Bell teach an electroluminescence display(EL, 40) (see figures 1-2 and column 2 lines 63-68).

3. Claims 20, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al(4,651,149) in view of Bell(4,996,523) and Stewart(5,302,966).

As to claims 20, 25 and 26, Takeda et al teach an LCD display device comprising a pixel having a liquid crystal cell(see figure 1 and column 1, lines 11-21); a first memory(23); a second memory(24) and means for determining a period in which the liquid crystal cell is turned on in accordance with image information of the stored digital video signals(see figure 2; column 1, lines 33-68 and column 2, lines 1-22).

Takeda et al fails to disclose n memories and means for determining a length of a period of light emitting element..

Bell teaches a light emitting device comprising a pixel having n memories(22n); means for determining periods in which the light emitting element emits a light

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corresponding to the video signals and one frame period including a writing period; an light emitting period(ON period) and non-light emitting period(Off period)(see figures 1-2; column 1, lines 58-68; column 2, lines 1-9 and lines 51-68; column 3, lines 6-16 and lines 41-68). It would have been obvious to have modified Takeda et al with the teaching of Bell, so as to provide multi-gradation display to a user.

Stewart teaches means for determining a length of a period of light emitting element(EL or LCD)(see figures 1-2; column 1, lines 54-68 and column 4, lines 40-58). It would have been obvious to have modified Takeda et al as modified with the teaching of Stewart, since it is relatively easy and cheap by varying the pulse width to control the gray scale level of a display element.

As to claim 26, Bell teach an electroluminescence display(EL, 40) (see figures 1-2 and column 2 lines 63-68).

4. Claims 2, 31, 32, 65 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Legagneux et al in view of Bell(4,996,523) and Greeneich et al(4,110,662).

As to claims 2, 31, 32, 65 and 68, Legagneux et al teach a light emitting device comprising a pixel having a light emitting element; a first memory(M1); a second memory(M2); means for determining a period in which the light emitting element emits a light in accordance with image information of the stored digital video signals and a frame period including a writing period, a light emitting period and non-light emitting period(see figures 1-4; column 2, lines 39-46; column 3, lines 27-34 and column 4, lines 9-46).

Legagneux et al fails to disclose  $n$  memories and means for determining a length of a light emitting element.

Bell teaches a light emitting device comprising a pixel having  $n$  memories(22n); means for determining periods in which the light emitting element emits a light corresponding to the video signals and one frame period including a writing period; an light emitting period(ON period) and non-light emitting period(Off period)(see figures 1-2; column 1, lines 58-68; column 2, lines 1-9 and lines 51-68; column 3, lines 6-16 and lines 41-68). It would have been obvious to have modified Legagneux et al with the teaching of Bell, so as to provide multi-gradation display to a user.

Greeneich et al teach means for determining a length of a period of light emitting element(EL)(see figures 1, 3-5; column 4, lines 13-57 and claim 4). It would have been obvious to have modified Legagneux et al as modified with the teaching of Greeneich et al, since it is relatively easy and cheap by varying the pulse width to control the gray scale level of a display element.

As to claim 68, Legagneux et al as modified teach the  $n$  first thin film transistor and  $n$  second thin film transistor(A-D)(see Legagneux's figure 3 and Greeneich's figure 4).

5. Claims 20, 25-26 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Legagneux et al in view of Bell(4,996,523), Greeneich et al and Takeda et al.

Legagneux et al fail to disclose an LCD display.

As to claims 20, 25 and 26, Takeda et al teach an LCD display device comprising a pixel having a liquid crystal cell(see figure 1 and column 1, lines 11-21); a first memory(23); a second memory(24) and means for determining a period in which the liquid crystal cell is turned on in accordance with image information of the stored digital video signals(see figure 2; column 1, lines 33-68 and column 2, lines 1-22). It would have been obvious to have modified Legagneux et al with the teaching of Takeda et al, since an LCD display having low power consumption, high speed and less radiation than an LED display.

As to claim 70, Legagneux et al as modified teach the n first thin film transistor and n second thin film transistor(A-D)(see Legagneux's figure 3 and Greeneich's figure 4).

6. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Legagneux et al in view of Bell(4,996,523), Greeneich et al(4,110,662) and Ishii et al(6,989,824).

Legagneux et al as modified fail to disclose first and second memories is an SRAM.

Ishii et al teach a display having an SRAM(a transistor and a resistor) in a memory cell(see figures 1-2b and column 7, lines 51-56). It would have been obvious to have modified Legagneux et al as modified with the teaching of Ishii et al, so as to provide a memory for storing image data without refreshing.

7. Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Legagneux et al in view of Bell(4,996,523), Greeneich et al, Takeda et al and Ishii et al(6,989,824).

Legagneux et al as modified fail to disclose first and second memories is an SRAM.

Ishii et al teach a display having an SRAM(a transistor and a resistor) in a memory cell(see figures 1-2b and column 7, lines 51-56). It would have been obvious to have modified Legagneux et al as modified with the teaching of Ishii et al, so as to provide a memory for storing image data without refreshing.

#### ***Allowable Subject Matter***

8. Claims 3-4, 7-18and 33-62 are allowable since none of cited references teach a counter circuit for outputting n counter signals with different frequencies.

9. Claims 69 and 71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

10. Applicant's arguments with respect to claims 2, 20, 25, 26, 31, 32, 65-68 and 70 have been considered but are moot in view of the new ground(s) of rejection.



**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hudson et al(6,005,558) teach a display having an SRAM in a pixel.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi Lao whose telephone number is 571-272-7671. The examiner can normally be reached on M-F.

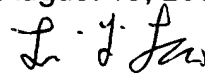
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number

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for the organization where this application or proceeding is assigned is 703-872-9306, after July 15, 2005, the fax number is 571-273-8300,

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 19, 2006

A handwritten signature in black ink, appearing to read 'L. Y. Lao'.

**Lun-yi Lao**  
**Primary Examiner**